
List of figures

Figure 1	
Static discharge points	7
Figure 2	
Disk position	8
Figure 3	
Cable routing troughs—front view of module	10
Figure 4	
Locking latches on the module cover	16
Figure 5	
Removing the pedestal grill	17
Figure 6	
Pedestal grill (UK)	17
Figure 7	
Location of the backplane jumper in NT9D11 Core/Network Modules (Option 61C)	20
Figure 8	
Location of the backplane jumpers in NT6D60 Core Modules (Option 81)	20
Figure 9	
Location of the backplane jumper in the NT5D21 Core/Network Module (Options 51C, 61C, and 81C)	21
Figure 10	
Module positioning guides	25

Figure 11	
Module mounting bolts	26
Figure 12	
Power and system monitor connections	27
Figure 13	
Positioning spacer gaskets	31
Figure 14	
Spacer positioning	32
Figure 15	
Column positioning with spacers	33
Figure 16	
Removing top cap grills	36
Figure 17	
Overhead cable tray kit	36
Figure 18	
Single column—ground and logic return distribution	39
Figure 19	
Multiple column—ground and logic return distribution	40
Figure 20	
Multiple-column, multiple-row—ground and logic return distribution	41
Figure 21	
Logic return connection for each column	44
Figure 22	
AC reserve power configuration	45
Figure 23	
UPS grounding diagram	46
Figure 24	
Ground and logic return distribution—MFA150 Modular Power System	52
Figure 25	
Ground and logic return distribution—System 600/48 Power Plant . .	53

Figure 26	
Circuit protection for the PDU	54
Figure 27	
DC-power equipment in the rear of the pedestal—NT7D67CB PDU .	56
Figure 28	
Cable routing in the rear of the pedestal—NT7D67CB PDU	57
Figure 29	
PDU to MFA150 connections	63
Figure 30	
PDU to System 600/48 Power Plant connections	64
Figure 31	
UEM to 8B/2R or 8B/4R master power cabinet 2R or 8B/4R master power cabinet connections	67
Figure 32	
BIX Module	72
Figure 33	
Recommended BIX layout for NT8D11 CE/PE, NT8D13 PE, and NT8D37 IPE Modules	73
Figure 34	
Sample basic BIX labels—NT8D11 CE/PE and NT8D37 IPE Modules	74
Figure 35	
Sample overlay BIX labels—NT8D14 Universal Trunk Card	74
Figure 36	
Sample overlay BIX labels—NT8D15 E&M Trunk Card	75
Figure 37	
Sample BIX labels—PFTU	75
Figure 38	
IPE module card allocation—Krone cross connect system	77
Figure 39	
CE/PE module card allocation—Krone cross connect system	78
Figure 40	
Label for Analogue line card	79

Figure 41	
Label for Analogue tie trunk card	80
Figure 42	
Label for Data Access line card (NT7D16)	81
Figure 43	
Label for Power Fail Transfer Unit	82
Figure 44	
Label for Digital line card (NT8D02)	83
Figure 45	
Label for Exchange line trunk card (NT5K18)	83
Figure 46	
Label for Direct Dial Inward trunk card (NT5K17)	84
Figure 47	
MDF terminations for typical PFTU operation	86
Figure 48	
Typical PFTU connection to the MDF and the Master System Monitor	87
Figure 49	
Options 21, 21E, 51, 51C, 61 and 61C— cable master system monitor to SDI port	97
Figure 50	
Options 71, 81, and 81C—cabling for master system monitor to slave unit 1 and SDI port	98
Figure 51	
Multiple-column system monitor connections	99
Figure 52	
UPS alarm cabling	102
Figure 53	
Terminal connection diagram	107
Figure 54	
Ports and switches on the NT8D41 SDI Paddle Board	112
Figure 55	
Switch locations on the NTND02 MSPS Card	113

Figure 56	
Cabling diagram for the NT8D41 SDI Paddle Board	114
Figure 57	
Cabling diagram for the NTND02 MSPS Card	115
Figure 58	
Cabling diagram for the QPC841 Four-Port SDI Card	115
Figure 59	
One terminal for the CPSI ports	118
Figure 60	
One terminal and a switch box to two CPSI ports	120
Figure 61	
One terminal and a switch box to the SDI and CPSI ports	122
Figure 62	
Modem to SDI port	131
Figure 63	
Modem to a switch box and SDI and CPSI ports (dual-column systems)	133
Figure 64	
Modem to a switch box and SDI and CPSI ports (single-column systems)	134
Figure 65	
Option 61 dual CPU, full network group configuration	136
Figure 66	
NT6D39 CPU/Network Module (front view)—CMA and 3PE cables	138
Figure 67	
NT6D39 CPU/Network Module (rear view)—location of D and E connectors	138
Figure 68	
Option 61C dual CPU, full network group	139
Figure 69	
NT5D21 Core/Net Module (rear view)—location of D and E connectors	143

Figure 70	
NT5D21 Core/Net Module (rear)—pre-installed backplane connections	144
Figure 71	
NT5D21 Core/Net Module (rear)—connections for IOP/CMDU to IOP/CMDU and CP to CP cables	145
Figure 72	
NT5D21 Core/Net Module (front)—clock controller card connections	146
Figure 73	
Option 71 dual CPU, multiple network group configuration	148
Figure 74	
NT8D34 CPU Module (front view)—CMA, clock controller, and SBE cards	152
Figure 75	
NT8D36 InterGroup Module connectors	152
Figure 76	
NT8D35 Network Module (front view)—3PE and IGS cables	153
Figure 77	
Cable routing from clock controller cards to InterGroup Module	153
Figure 78	
Network Group 0—cable routing to CPU and InterGroup Modules	154
Figure 79	
Network Group 1—cable routing to CPU and InterGroup Modules	154
Figure 80	
Network Group 2—cable routing to CPU and InterGroup Modules	155
Figure 81	
Network Group 3—cable routing to CPU and InterGroup Modules	155
Figure 82	
Network Group 4—cable routing to CPU and InterGroup Modules	156
Figure 83	
Option 81 dual CPU, multiple network group configuration	158
Figure 84	
NT6D60 Core Module (rear)—preinstalled backplane connections	163

Figure 85	
NT6D60 Core Module (rear)—connections for IOP to IOP and CP to CP cables	164
Figure 86	
NT6D60 Core Module (front)—clock controller card connections . . .	166
Figure 87	
Cable routing from clock controller cards to InterGroup Module	167
Figure 88	
NT8D36 InterGroup Module—connectors for IGS cards	170
Figure 89	
Network Group 0—cable routing to Core and InterGroup Modules . .	170
Figure 90	
Network Group 1—cable routing to Core and InterGroup Modules . .	171
Figure 91	
Network Group 2—cable routing to Core and InterGroup Modules . .	171
Figure 92	
Network Group 3—cable routing to Core and InterGroup Modules . .	172
Figure 93	
Network Group 4—cable routing to Core and InterGroup Modules . .	172
Figure 94	
Option 81C dual CPU, multiple network group configuration	174
Figure 95	
NT5D21 Core/Net Module (rear)—preinstalled backplane connections	179
Figure 96	
NT5D21 Core/Net Module (rear)—connections for IOP/CMDU to IOP/CMDU and CP to CP cables	180
Figure 97	
NT8D35 Network Module (front)—clock controller card connections	182
Figure 98	
Cable routing from clock controller cards to InterGroup Module	183
Figure 99	
NT8D36 InterGroup Module—connectors for IGS cards	187

Figure 100	
Network Group 0—cable routing to Core/Net and InterGroup Modules	187
Figure 101	
Network Group 1—cable routing to Core/Net and InterGroup Modules	188
Figure 102	
Network Group 2—cable routing to Core/Net and InterGroup Modules	188
Figure 103	
Network Group 3—cable routing to Core/Net and InterGroup Modules	189
Figure 104	
Network Group 4—cable routing to Core/Net and InterGroup Modules	189
Figure 105	
NT5D21 Core/Network Module (rear view)—location of D and E connectors	190
Figure 106	
Options 81 and 81C configuration: multiple rows of columns (top view)	192
Figure 107	
NT8D04 Superloop Network Card network loops—connectors for single-row connections	194
Figure 108	
Installing a superloop adapter plate	196
Figure 109	
NT8D04 Superloop Network Card network loops—network card to I/O panel connections	198
Figure 110	
NT8D04 Superloop Network Card network loops—controller card to I/O panel connections	199
Figure 111	
QPC414 Network Card network loops—connectors and cables for single-row connections	202
Figure 112	
QPC414 Network Card network loops—network card to I/O panel connections	204

Figure 113	
QPC414 Network Card network loops—DLB card to I/O panel connections	206
Figure 114	
QPC414 network loop configurations	207
Figure 115	
QPC414 Network Card network loops—connectors and cables for single-row connections	209
Figure 116	
QPC414 Network Card network loops—network card to I/O panel connections	212
Figure 117	
QPC414 Network Card network loops—NT5K10 DLB card to NT5K11 I/O panel connections	213
Figure 118	
NT5K11 I/O panel	214
Figure 119	
QPC414 network loop configurations	215
Figure 120	
NT8D11 backplane cable designations	218
Figure 121	
NT8D37 backplane cable designations	220
Figure 122	
NT8D11 CE/PE Module I/O panels	222
Figure 123	
NT8D13 PE Module I/O panels	223
Figure 124	
NT8D37 IPE Module I/O panels	224
Figure 125	
NT5K11 EEPE Module I/O panels	225
Figure 126	
Security device location on the NT5D61 IODU/C card	316

Figure 127	
Blower unit removal	334
Figure 128	
Mounting plate installation	347
Figure 129	
Top cap assembly	351
Figure 130	
Installing bracing rods for column support	352
Figure 131	
Positioning spacer gaskets	353
Figure 132	
Spacer positioning	353
Figure 133	
Adding spacers to columns	354
Figure 134	
Pedestal mounting flange (rear view)	357
Figure 135	
Card slots in the NT8D47 RPE Module	360
Figure 136	
Possible ORB locations in the RPE system	361
Figure 137	
RPE Module backplane	362
Figure 138	
Input/output panel	363
Figure 139	
Remote peripheral equipment cabling	366
Figure 140	
RPE cabling to an SL-1 cabinet and PE modules	367
Figure 141	
RPE cabling to a collocated Meridian 1 column and PE modules ...	368
Figure 142	
Local-to-remote RPE cross-connections	374

Figure 143	
MDF cross-connections	375
Figure 144	
Maintenance lead cross-connections	376
Figure 145	
QPC62 option switch and header pin locations	378
Figure 146	
QPC66 header pin strapping	379
Figure 147	
QPC99 option switch locations	380
Figure 148	
QPC99 maintenance jacks and looping switches	387
Figure 149	
Typical span line fault locating arrangement	388
Figure 150	
NT7D09CA Pedestal—module power and system monitor connections	391
Figure 151	
Module mounting bolts	392
Figure 152	
Module-to-module power and system monitor connections	394
Figure 153	
Module-to-module power and system monitor connections	397
Figure 154	
Module mounting bolts	398
Figure 155	
Module positioning guides	399
Figure 156	
Top cap assembly	404
Figure 157	
Module positioning guides	405

Figure 158	
Module mounting bolts	406
Figure 159	
Module-to-module power and system monitor connections	408
Figure 160	
QBL12 distribution box	412
Figure 161	
QBL12 cabling	414
Figure 162	
QBL12 –48 V and ground connections	415
Figure 163	
QBL12 SENSE and DCON connections	416
Figure 164	
NT0R72 rectifier—front view	418
Figure 165	
NT0R72 rectifier—rear view	418
Figure 166	
NT0R72 rectifiers and NT7D12 rectifier rack	420
Figure 167	
NT7D1201 baffle assembly mounted in rack	421
Figure 168	
NT0R72 rectifier mounted in rack	422
Figure 169	
QBL15 battery connections	426
Figure 170	
Rectifier to QBL15 connections	430
Figure 171	
NT6D54 field wiring kit connections	431
Figure 172	
NT8D62 Ground and logic return distribution—NT6D82 Power System	434

Figure 173	
QBL12 ground and logic return distribution	435
Figure 174	
QBL15 ground and logic return distribution	436
Figure 175	
QCA13 ground and logic return distribution	437
Figure 176	
Circuit protection for the PDU	440
Figure 177	
Wire gauge requirements with two 30-amp feeds (five wires)	441
Figure 178	
DC power equipment in the rear of the pedestal—NT7D67CB PDU	442
Figure 179	
Cable routing in the rear of the pedestal—NT7D67CB PDU	443
Figure 180	
PDU to NT6D82 connections	447
Figure 181	
PDU to QBL12 or QCA13 connections	448
Figure 182	
PDU to QBL15 connections	449
Figure 183	
Power equipment in the rear of the pedestal—NT7D10 PDU	455
Figure 184	
PDU to MFA150 connections	459
Figure 185	
PDU to NT6D82 connections	460
Figure 186	
PDU to QBL12 or QCA13 connections	461
Figure 187	
PDU to QBL15 connections	462
Figure 188	
UEM to 8R/2R or 8B/4R master power cabinet connections	466

Figure 189	
NT8D11 backplane cable designations for 7-cable configuration	468
Figure 190	
NT8D11 CE/PE Module I/O panels for 7-cable configuration	469
Figure 191	
NT8D37 backplane cable designations for 12-cable configuration . . .	470
Figure 192	
NT8D37 IPE Module I/O panels for 12-cable configuration	471
Figure 193	
NT8D11 backplane cable designations: expanded configuration	496
Figure 194	
NT8D37 backplane cable designations: expanded configuration	499
Figure 195	
Grounding and interconnection of customer Power equipment to Meridian 1 using NT LRE	502
Figure 196	
Grounding and interconnection of customer Power equipment to Meridian 1 using customer LRE	504